

CATERPILLAR INC.

EXECUTIVE ORDER U-R-001-0396-1 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)			
2010	ACPXL27.0ESW	27.0	Diesel	8000			
SPECIAL	FEATURES & EMISSION (TYPICAL EQUIPMENT APPLICATION				
Direct Dies	sel Injection, Turbocharge Engine Control Mo	er, Charge Air Cooler, dule	Generator				

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED	EMISSION			E	XHAUST (g/kw-l	_	OPACITY (%)			
POWER CLASS	STANDARD CATEGORY		HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
KW > 560	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	N/A	N/A	N/A
		FEL	N/A	N/A	6.0	N/A	0.19	N/A	N/A	N/A
		CERT			5.4	1.3	0.14			

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

This Executive Order hereby cancels and replaces Executive Order U-R-001-0396 dated November 24, 2009.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this _____ 30:4 day of August 2010.

Annette Hebert, Chief

Mobile Source Operations Division

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	8.Fuel Rate: 9.Emission Control (bs/hr)@peak torqueDevice Per SAE J1930	EM, DI, TC, CACEON	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,	EM, DI, TC,
0/10/10/10	8.Fuel Rate: (lbs/hr)@peak torqu	NA.	W	N	M	W	W	NA	W	M	M	NA	NA	M	NA
7.Fuel Rate:	mm/stroke@peak torque	NA	NA	NA	NA	NA	NA	AM	NA A	AM	NA	NA M	NA	NA A	NA
	6.Torque @ RPM (SEA Gross)	NA	NA	Ą	AN AN	NA	NA	AN	AN	AN	WA	NA	AN	NA NA	NA
5.Fuel Rate:	- 1	414.9	401.5	401.5	376.9	376.9	352.1	352.1	328.3	328.3	401.5	401.5	376.9	352.1	328.3
4. Fuel Rate:	mm/stroke @ peak HP (lbs/hr) @ peak HP (for diesel only) (for diesels only)	343	332	332	311	311	291	291	271	271	332	332	311	291	271
	3.BHP@RPM r (SAE Gross)	1214@1800	1214@1800	1214@1800	1141@1800	1141@1800	1069@1800	1069@1800	998@1800	998@1800	1214@1800	1214@1800	1141@1800	1069@1800	998@1800
	2.Engine Model	C27	C27	C27	C27	C27	. C27	C27	Ç27	C27	C27	C27	C27	C27	C27
	1.Engine Code	Cert Test 2	1 Cert Engine	2	3	4	5	9		8	6	10	11	12	13
	Engine Family 1.Engine Code 2.Engine Model	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW	CPXL27.0ESW